

**NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT**

Preliminary Findings Regarding a Construction and Operation Permit
for **Doors and Drawers, Inc.**
in **Elkhart County**

MSOP 039-12884-00189

Notice is hereby given that the company mentioned above, located at 64722 C.R. 27, Goshen, Indiana 46526, has made application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a permit to construct and operate a woodworking facility with a cyclone and filter unit as air pollution control. Based on 8,760 hours of operation per year, the potential to emit PM is 85.2 tons per year, but is limited by 326 IAC 6-3-2 to 0.95 pound per hour, such that the cyclone and filter unit must be in operation in order to comply with the rule.

Notice is hereby given that there will be a period of thirty (30) days from the date of publication of this notice during which any interested person may comment on why this proposed permit should or should not be issued. Appropriate comments should be related to air quality issues, interpretation of the applicable state and federal rules, calculations made, technical issues, or the effect that the operation of this facility would have on any aggrieved individuals. IDEM, OAQ does not have jurisdiction in specifying and implementing requirements for zoning, odor or noise. For such issues, please contact your local officials. A copy of the application and staff review is available for examination at the Goshen Public Library, 601 South 5th, Goshen, Indiana. A copy of the draft permit is also available for examination at www.state.in.us/idem/oam/index.html. All comments, along with supporting documentation, should be submitted in writing to the IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015. If appropriate adverse comments concerning the **air pollution impact** of this proposed source are received, together with a request for a public hearing, such a hearing may be held to give further consideration to this application.

Persons not wishing to comment at this time, but wishing to receive notice of future proceedings conducted related to this action, must submit a written request to the Office of Air Quality (OAQ), at the above address. All interested parties of record will receive a notice of the decision on this matter and will then have 15 days after receipt of the Notice of Decision to file a petition for administrative review. Procedures for filing such a petition will be enclosed with the Notice.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Richard Billings, ERG, P.O. Box 2010, Morrisville, North Carolina 27560, or call (919) 468-7812 to speak directly to Mr. Billings. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

ERG/RB

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Doors and Drawers
64722 C.R. 27
Goshen, Indiana 46526**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 039-12884-00189	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: Expiration Date:

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates stationary woodworking facility.

Authorized Individual: Kim Botts
Source Address: 64722 C.R. 27, Goshen, Indiana 46526
Mailing Address: 64722 C.R. 27, Goshen, Indiana 46526
Phone Number: (219) 553-2792
SIC Code: 2434
County Location: Elkhart
County Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, PSD Rules

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) paint booth, identified as CEI equipped with air assisted airless spray applicators for wood products, with a maximum capacity of fifteen (15) units per hour, using dry filters for overspray control and exhausting at stack, identified as SA.
- (b) A woodworking shop equipped with one (1) cyclone and a filtration unit (which will be added on or before August 1, 2001) for particulate control.
- (c) One (1) natural gas fired vertical furnace with a rating of 0.080 MMBtu/hr emitted to the atmosphere through a stack (SB).
- (d) Four (4) radiant heaters, two (2) with a MMBtu rating of 0.1, one (1) with a MMBtu rating of 0.15 MMBtu's and One (1) with a MMBtu rating of 0.08, venting to the atmosphere.
- (e) One (1) forklift.

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense [IC 13]

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

This permit is issued for a fixed term of five (5) years from the original date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.4 Modification to Permit [326 IAC 2]

All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit for any criteria pollutant is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.
- (c) Any change or modification which may increase potential to emit to 10 tons per year of any single hazardous air pollutant, twenty-five tons per year of any combination of hazardous air pollutants, or 100 tons per year of any other regulated pollutant (except PM) from this source, shall cause this source to be considered a major source under Part 70 Permit Program, 326 IAC 2-7, and shall require approval from IDEM, OAQ prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015

Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

Record Keeping and Reporting Requirements

C.12 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality(OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.13 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or

perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.14 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section

C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.15 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Quarterly Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.16 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

C.17 Annual Emission Statement [326 IAC 2-6]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
 - (1) Indicate actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
 - (2) Indicate actual emissions of other regulated pollutants from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by

any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

The submittal by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (a) One (1) paint booth, identified as CEI equipped with air assisted airless spray applicators for wood products, with a maximum capacity of fifteen (15) units per hour, using dry filters for overspray control and exhausting at stack, identified as SA.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

Airless Spray Application
Air Assisted Airless Spray Application
Electrostatic Spray Application
Electrostatic Bell or Disc Application
Heated Airless Spray Application
Roller Coating
Brush or Wipe Application
Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]

The PM from the paint booth shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this emissions unit and any control devices.

Compliance Determination Requirements

D.1.4 Particulate Matter (PM)

PM control shall be in operation at all times when the paint booth (SA) is in operation.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (b) A woodworking shop equipped with one (1) cyclone and filter unit (which will be added on or before August 1, 2001) for particulate control.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.2.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the woodworking facilities shall not exceed 0.95 pounds per hour when operating at a process weight rate of 224 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.3 Particulate Matter (PM)

The cyclone for PM control shall be in operation at all times when the wood working units are in operation.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (c) One (1) natural gas fired vertical furnace with a rating of 0.080 MMBtu/hr emitted to the atmosphere through a stack (SB).
- (d) Four (4) radiant heaters, two (2) with a MMBtu rating of 0.1, one (1) with a MMBtu rating of 0.15 MMBtu's and One (1) with a MMBtu rating of 0.08, venting to the atmosphere.
- (e) One (1) forklift.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

These units do not have specifically applicable requirements.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under
326 IAC 2-6.1-5(a)(5).

Company Name:	Doors and Drawers, Inc.
Address:	65722 C.R. 27
City:	Goshen, Indiana 46526
Phone #:	(219) 553-2792
MSOP #:	039-12884-00189

I hereby certify that Doors and Drawers, Inc. is ☐ still in operation.
☐ no longer in operation.

I hereby certify that Doors and Drawers, Inc. is ☐ in compliance with the requirements of MSOP 039-12884-00189
☐ not in compliance with the requirements of MSOP 039-12884-00189

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:



MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?____, 25 TONS/YEAR SULFUR DIOXIDE ?____, 25 TONS/YEAR NITROGEN OXIDES?____, 25 TONS/YEAR VOC ?____, 25 TONS/YEAR HYDROGEN SULFIDE ?____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?____, 25 TONS/YEAR FLUORIDES ?____, 100TONS/YEAR CARBON MONOXIDE ?____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

PAGE 1 OF 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name: Doors and Drawers, Inc.
Source Location: 64722 C.R. 27, Goshen, Indiana 46526
County: Elkhart
SIC Code: 2434
Operation Permit No.: 039-12884-00189
Permit Reviewer: ERG/RB

The Office of Air Quality (OAQ) has reviewed an application from Doors and Drawers relating to the construction and operation of woodworking facility.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) paint booth, identified as CEI equipped with air assisted airless spray applicators for wood products, with a maximum capacity of fifteen (15) units per hour, using dry filters for overspray control and exhausting at stack, identified as SA.
- (b) A woodworking shop equipped with one (1) cyclone and filtration unit (which will be added on or before August 1, 2001) for particulate control.
- (c) One (1) natural gas fired vertical furnace with a rating of 0.080 MMBtu/hr emitted to the atmosphere through a stack (SB).
- (d) Four (4) radiant heaters, two (2) with a MMBtu rating of 0.1, one (1) with a MMBtu rating of 0.15 MMBtu's and One (1) with a MMBtu rating of 0.08, venting to the atmosphere.*
- (e) One (1) forklift*

* Not included in previous permits but emissions are at exemption levels.

Unpermitted Emission Units and Pollution Control Equipment

The source has no unpermitted emission units at the time of this review.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new construction activities included in this permit.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Registration 039-3051-00189, issued on February 16, 1994.

All conditions from previous approvals were incorporated into this permit. Note, the two (2) natural gas-fired vertical furnaces included in the past permit are no longer operational and have been removed.

Note, the prior registration was based on controlled emissions in the potential to emit calculations. Uncontrolled PM potential to emissions are 85.2 tons per year, requiring a minor source operating permit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SA	CEI Spray Booth	16	2	785	70
SB	Furnace	13.5	0.48	9.8	140
SC	Furnace	17.9	0.75	11.04	200
SD	Furnace	17.9	0.75	11.04	210
SE	Woodworking Cyclone	13	5	4968	70

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 23, 2000, with additional information received on November 22, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A pages 1 through 6).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	85.2
PM-10	14.5
SO ₂	0.0
VOC	23.7
CO	10.0
NO _x	4.4
Most Significant HAP (Toluene)	3.3
Total HAPs	5.1

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM is less than 100 tons per year and greater than 25 tons per year; therefore, the source is subject to the provisions of 326 IAC 2-6.1.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Limited Potential to Emit (lbs/hr)					
Process	PM	SO ₂	NO _x	VOC	CO
Combustion	0.00	0.00	0.05	0.00	0.05
Forklift	0.02	0.00	0.95	0.13	2.24
Woodworking	0.04*	0.00	0.00	0.00	0.00
Surface Coating	0.12*	0.00	0.00	5.28	0.00
Total	0.16	0.00	1.00	5.41	2.29

* Limited by 326 IAC 6-3-2

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, total emissions identified in this permit 039-12884-00189, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) Each criteria pollutant is less than 100 tons per year,
- (b) A single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) Any combination of HAPs is less than 25 tons/year.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) 326 IAC 20-14-1 (40 CFR 63 Subpart JJ - Wood Furniture Manufacturing Operation) applies to facilities engaged in wood furniture or wood furniture components and is a major source as defined in 40 CFR part 63, Subpart A. Doors and Drawers is not a major source, therefore this rule does not apply.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of PM and VOC. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 8-2-12 (Volatile Organic Compounds (VOC))

Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets shall utilize one of the following application methods:

- Airless Spray Application
- Air Assisted Airless Spray Application
- Electrostatic Spray Application
- Electrostatic Bell or Disc Application
- Heated Airless Spray Application
- Roller Coating
- Brush or Wipe Application
- Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the woodworking shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

For Doors and Drawers, Inc. the allowable PM emissions rate is 0.95 pounds per hour for a process rate of 224.4 pounds (0.112 tons) per hour.

$$E = 4.10 * (0.112)^{0.67} = 4.10 * (0.231) = 0.95 \text{ pounds per hour}$$

The cyclone with a filter unit shall be in operation at all times the woodworking facility is in operation, in order to comply with this limit. Note, construction of the filter unit will be completed on or before August 1, 2001.

Compliance Monitoring and Prevention Maintenance Plan

Additional compliance monitoring such as inspections of the dry filters and cyclones, opacity monitoring, and prevention and maintenance plans are not required as the source is not subject to a NSPS or NESHAP. The controlled emissions do not exceed 10 pounds per hour, and there are no conditions limiting the potential to emit which would keep the unit out of an applicable requirement.

Conclusion

The construction and operation of this woodworking facility shall be subject to the conditions of the attached proposed MSOP 039-12884-00189.

Appendix A: Emissions Calculations
Total Potential Emissions

Company Name: Doors and Drawers
Address City IN Zip: 64722 C.R. Goshen, Indiana
CP: 39-12884
Plt ID: 39-00189
Reviewer: ERG/RB
Date: December 8, 2000

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Potential Emissions (Tons Per Year)

	PM*	PM10*	SO2	NOx	VOC	CO
Combustion	0.00	0.00	0.00	0.20	0.00	0.20
Forklift					0.58	
Woodworking	78.57	7.86				
Surface coating	6.60	6.60			23.13	
Total	85.17	14.46	0.00	0.20	23.71	0.20

Controlled Emissions (Tons Per Year)

	PM*	PM10*	SO2	NOx	VOC	CO
Combustion	0.00	0.00	0.00	0.20	0.00	0.20
Forklift					0.58	
Woodworking	0.16	0.02				
Surface coating	0.53	0.53			23.13	
Total	0.69	0.55	0.00	0.20	23.71	0.20

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Small Industrial Boiler

Company Name: Doors and Drawers

Address City IN Zip: 64722 C.R. Goshen, Indiana

CP: 39-12884

Plt ID: 39-00189

Reviewer: ERG/RB

Date: December 8, 2000

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.51

4.5

Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.0	0.0	0.0	0.2	0.0	0.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

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MM BTU/HR <100

Small Industrial Boiler

HAPs Emissions

Company Name: Doors and Drawers

Address City IN Zip: 64722 C.R. Goshen, Indiana

CP: 39-12884

Plt ID: 39-00189

Reviewer: ERG/RB

Date: December 8, 2000

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.691E-06	2.681E-06	1.675E-04	4.021E-03	7.595E-06

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.117E-06	2.457E-06	3.127E-06	8.488E-07	4.691E-06

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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updated 4/99

Appendix A: Emissions Calculations

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Fork lift

Company Name: Doors and Drawers
Address City IN Zip: 64722 C.R. Goshen, Indiana
CP: 39-12884
Plt ID: 39-00189
Reviewer: ERG/RB
Date: December 8, 2000

CNG-powered Fork Lift Emission Estimate for VOC

emission factor* (g/hp*hr)	fork lift hp rating**	hourly emission rate (g/hr)	annual emission rate (g/yr)	Conversion (kg/yr)	Conversion (lbs/yr)	Conversion (tons/yr)
1.68	36.00	60.48	529804.80	529.80	1168.02	0.58

* Emission Factor from EPA's OMS "Exhaust Emission Factors - Spark Ignition", NR010b EPA420-R-99-09, 5/3/99.

** Fork lift hp rating provided by the source.

Appendix A: Emissions Calculations

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Fork lift

Company Name: Doors and Drawers
Address City IN Zip: 64722 C.R. Goshen, Indiana
CP: 39-12884
Plt ID: 39-00189
Reviewer: ERG/RB
Date: December 8, 2000

CNG-powered Fork Lift Emission Estimate for VOC

emission factor* (g/hp*hr)	fork lift hp rating**	hourly emission rate (g/hr)	annual emission rate (g/yr)	Conversion (kg/yr)	Conversion (lbs/yr)	Conversion (tons/yr)
1.68	36.00	60.48	529804.80	529.80	1168.02	0.58

* Emission Factor from EPA's OMS "Exhaust Emission Factors - Spark Ignition", NR010b EPA420-R-99-09, 5/3/99.

** Fork lift hp rating provided by the source.

Appendix A: Emissions Calculations

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Woodworking Operations

Company Name: Doors and Drawers
Address City IN Zip: 64722 C.R. Goshen, Indiana
CP: 39-12884
Plt ID: 39-00189
Reviewer: ERG/RB
Date: December 8, 2000

Cyclone

	tons/yr	lbs/hr
Tons of PM collected annually	17.9	17.9
Estimated Control Efficiency	99.8%	
Controlled PM emissions (tons/ year)	0.038	0.038
Controlled PM10 emissions (tons/ year)	0.004	0.004
Total Uncontrolled PM Emissions (tons/ year)	17.938	17.938
Total Uncontrolled PM10 Emissions (tons/ year)	1.794	1.794
Adjustment for 8760 hours of operation		
Uncontrolled PM Emissions (tons/year)	78.567	17.93765
Uncontrolled PM10 Emissions (tons/year)	7.857	1.793765
Controlled PM Emissions (tons/year)	0.165	0.037647
Controlled PM10 Emissions (tons/year)	0.016	0.003765

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

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**Company Name: Doors and Drawers
Address City IN Zip: 64722 C.R. Goshen, Indiana
CP: 39-12884
Plt ID: 39-00189
Reviewer: ERG/RB
Date: April 5, 2001**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Star Finish	7.6	62.00%	0.0%	62.0%	0.0%	28.00%	0.75000	1.000	4.68	4.68	3.51	84.26	15.38	6.60	16.72	30%
Star Catalyst	8.0	60.00%	0.0%	60.0%	0.0%	27.00%	0.03000	1.000	4.79	4.79	0.14	3.45	0.63	0.29	17.76	30%
Stain	6.7	88.00%	0.0%	88.0%	0.0%	8.90%	0.11300	1.000	5.89	5.89	0.67	15.97	2.91	0.28	66.15	30%
Thinner	7.1	100.00%	0.0%	100.0%	0.0%	0.00%	0.25000	1.000	7.08	7.08	1.77	42.48	7.75	0.00	ERR	30%

Potential Emissions	Add worst case coating to all solvents	5.28	126.74	23.13	6.60
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METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

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**Appendix A: Emissions Calculations
Hazardous Air Pollutants
From Surface Coating Operations**

Company Name: Doors and Drawers
Address City IN Zip: 64722 C.R. Goshen, Indiana
CP: 39-12884
Plt ID: 39-00189
Reviewer: ERG/RB
Date: December 8, 2000

Tons Per Year

Hazardous Air Pollutant	Star Finish	Star Catalyst	Stain	Thinner	Total
Formaldehyde	0.05	0.00	0.00	0.00	0.05
Toluene	1.08	0.00	0.00	2.25	3.32
Xylene	0.62	0.00	0.00	0.07	0.68
Methyl Isobutyl	0.00	0.00	0.00	0.31	0.31
Methanol	0.00	0.00	0.00	0.70	0.70
				Total	5.07